UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

U. S. RADIO FARM SCHOOL Wed., Feb. 1/28

NOT FOR PUBLICATION

Farm Economics Meeting No. 18.

SUBJECT: Advertising in Marketing.

ANNOUNCEMENT: At these Wednesday meetings of our farm club, we've been discussing the marketing of farm products --- Some of us have picked up some good hints on marketing, too.---That Department of Agriculture expert, over there by the stove, has helped us a lot ---- Sure --- If you want to hear what they're saying, get down there closer -----

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WATSON: ------ You seem to be strong for advertising ------

EXPERT: Yes, I am. It's been demonstrated that advertising is a big help in increasing the consumption of farm products, and in taking care of surpluses.

WATSON: But don't boosting the demand on one farm product bring down the demand on some other farm product?

EXPERT: Not seriously. Advertising of semi-luxuries or products other than staple foods has been most effective. For instance, the cranberry growers' marketing associations now know just how much advertising they have to do to move a crop of a particular size. Through more vigorous advertising, they've caused more people to add cranberries to their holiday menus. In that way, they get rid of the crop, whereas without advertising, consumers seem to forget the cranberries.

WATSON: Well, when they add cranberries, don't they leave something else off? Don't they reduce the consumption of other foods?

EXPERT: I'd say not entirely. Since the cranberry is an appetizer, adding cranberries may increase the demand for other foods.

WATSON: But advertising farm stuff calls for a big selling organization.

EXPERT: That's one of the big advantages of having big marketing organizations for fruits. They give a chance to advertise. To be really effective and use brand names and trademarks in advertising involves considerable expense; and an organization which can furnish a big supply of the trademarked product. The organization not only has to have something to sell, but must offer it through a good number of retailers, so it will be easy for consumers to buy the advertised goods. Otherwise advertising is wasted.

WATSON: A big national campaign to boost milk drinking or meat or apple eating must run into the hundred thousands of dollars. How do they pay for it?

EXPERT: Well, a campaign like that must be managed by a national selling organization. The cost is spread over the entire industry by a small charge against each package sold. For instance, the national apple advertising campaign may be financed by a small charge per box or per barrel on each shipment of apples. The possibilities of that form of advertising are enormous. The small amount collected from each producer amounts to an enormous total. Properly used that sum would have a big influence on consumers.

One of the chief uses of advertising in connection with food products is to educate consumers to the fact that the quality and kind of farm products change from year to year and sometimes from month to month beyond the control of the producer. Through advertising consumers can be told how to change their food habits to meet those conditions.

WATSON: Just how do you mean?

EXPERT: For instance, strawberries may be plentiful, but prospects for peaches may be very poor. Or say frosts have killed the early crop of strawberries, and the late crop is later than usual. Through advertising by producers' associations, the public can be kept informed and will buy more strawberries for preserving when they know that they won't be able to buy peaches later. And they will buy strawberries for canning even at higher prices when they know that part of the crop has been killed.

WATSON: The stuff you sell that's advertised has to be fancy - or select - doesn't it?

EXPERT: Well, it has to be of uniform quality. One package has to be as good as the other. Advertising puts an obligation on the producer to standardize his products. Farm products sold under a brand name must be carefully packed, graded, inspected, and labelled. You can do that best through a packing house or cooperative marketing association. Advertising must be truthful, or the public will quickly turn against it. Good advertising is a strong instrument in the hands of farmers' marketing organizations. Some day they will learn to use it as effectively as other manufacturers do now.

WATSON: How about advertising in a small way? Say a farmer advertising his own stuff?

EXPERT: If you have something to sell to your neighbors or nearby towns you can use billboards, or advertise in the papers, or use direct mail advertising.

WATSON: Billboards are cheapest and simplest -- that is, if you're located on the main road?

EXPERT: Yes, if a farm is located on the main road, readside billboards come to the attention of a large numbers of people.

WATSON: The way they travel through the country these days, I guess they don't see much. At most, they wouldn't give a billboard more than a fleeting glance.

EXPERT: Even so, a clear cut announcement of something for sale is not forgotten. However, billboard advertising should be very brief, easily read, and definite. The development of the roadside market on main highways has made billboard advertising effective for the sale of farm products. There are many roadside stands at which farmers are now selling products chiefly from their own farms amounting in value from $5,000 to $15,000 a year. Automobile travel has made it possible for enough people to pass a given point, so that there are plenty of customers available to make a profitable business.

WATSON: What do you think of newspaper advertising as a paying thing?

EXPERT: Oh, newspaper advertising by farmers is a standard method for farmers who have products to sell in nearby towns. If the product is desirable and one that the people in the town need, it is a relatively inexpensive way to get in touch with customers.

Of course, if you are producing such special products as seeds, plants, and animals for breeding, where your customers live in widely scattered States, you will turn to the farm and trade papers which reach your scattered prospects. Advertising in trade papers is usually more expensive than advertising in newspapers unless you use less space. Usually it is best to combine that sort of advertising with direct mail advertising. Advertising by mail works well if you are selling a high grade product which can be readily shipped or delivered, and upon which you can get repeat orders from the same customer.

WATSON: Things like eggs, and honey, and specially selected and packed fruits and home canned goods can be sold that way, can't they?

EXPERT: Sure. You can mail post cards, folders, or form letters describing your goods in detail and giving your price lists to selected lists of customers.

WATSON: Where would you get the lists of customers?

EXPERT: You can get such lists through advertising in the newspapers, from personal canvass in resident sections, from telephone directories, lists of members of clubs, and other organizations, and in other ways.

After you have made a sale to a customer, you can send announcements and advertising matter at regular intervals. By those sort of methods, many farmers have built up circles of regular customers for such products as fruits, vegetables, dairy products and poultry, so that they are not seriously concerned with the problem of finding a market. Theirs is chiefly the problem of being able to produce at low costs so as to be able to sell their goods at prices which are not too much above the current market price. Customers will usually pay a premium for higher quality produce, but not too high a premium in the face of cheaper goods in the local store.

WATSON: There's danger of spending too much on advertising, don't you think?

EXPERT: Certainly, unless you do it wisely, and take care to furnish a high grade of produce. Also follow up and hold your customers.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
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U. S. RADIO FARM SCHOOL Fri. Feb. 3, 1928.

(NOT FOR PUBLICATION)

Livestock and Dairy Meeting No. 18.

SUBJECT: Dairy Herd Management (2)

ANNOUNCEMENT: Find seats, please! --- Can't you see the club meeting is about to begin? ----If I'm going to serve as sergeant-at-arms of this club, you'll have to make less racket --- We can't hear what the Department of Agriculture man is saying --- nor what Lafe Smith is saying to him ---- Now, that's more like it --- you can hear something now -----

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SMITH: Yes, sir, I measure the grain for each cow. I just put enough grain in the cart, and then measure the amount for each cow as I push the cart through the feeding alley.

EXPERT: That's a good way to do it. Silage can be fed from a similar cart. I suppose you feed the grain before or during milking and the hay and silage afterward. If you milk your cows 3 or 4 times a day, you should divide the total daily quantity of grain into 3 or 4 equal parts, to correspond with the number of milkings ------

SMITH: We were just talking about that before you came in. Most of us here milk our cows twice a day. But Ed Tate there says he milks his high producing cows four times a day. How many times would you say to milk?

EXPERT: Well, within certain limits, the oftener a cow is milked, the greater will be her production.

SMITH: What are those "limits"?

EXPERT: Experiments at the Bureau of Dairy Industry experiment farm at Beltsville, Maryland, show that for short periods three times a day milking gives an increase in production of 12 per cent over twice a day milking. In a year, the increase would probably be about 18 per cent. Milking four times a day gives a further increase of 6 or 7 per cent.

SMITH: The amount of increase varies with the individual cows, doesn't it?

EXPERT: Of course. In some dairies all the cows are milked three times a day. In others, only the higher producers are milked that often.

SMITH: What I want to know is, does it pay to milk three times a day?

EXPERT: That is something for each of you to figure out for yourself. It is a question of the value of the milk and the cost of the extra milking and feed.

SMITH: How much feed will it take for that extra milk?

EXPERT: About one pound of concentrated feed will be needed for each 2 or 3 pounds of extra milk.------- I suppose it is unnecessary to tell you men here that cows need plenty of pure, fresh water. Some of you, I know, have installed drinking cups in your barns. Others use an outside tank. In case you water outside, you should make some provision to keep the water from freezing. You should water your cows at least twice a day.

SMITH: How much salt should you give them?

EXPERT: A dairy cow needs from 1 to 2 ounces of salt a day; depending on her size, the kind of feed she is getting, and the quantity of milk she is producing.

SMITH: What's the best way to feed it?

EXPERT: Mix one to two pounds of salt with each 100 pounds of grain mixture. Put out a supply where each cow can get to it, and take more if she wants it.

SMITH: How about using mechanical milkers? Some say they're good and others won't use them.

EXPERT: Well, the increased use of mechanical milkers shows their practicability for all herds except very small ones. They certainly save work. The cows should always be stripped after the machine is used. Milking machines properly operated and cleaned produce just as much milk and just as high quality milk as you can get by good hand milking. Failures with mechanical milkers are usually due to carelessness in using them, or lack of mechanical knowledge, or improper cleaning.

Keep your cows clean. Brushing cows makes them look better and makes possible cleaner milk. The flanks and udders should be clipped. Wipe them with a damp cloth just before milking. But do your grooming long enough before milking time to allow the dust to settle.

SMITH: I don't have to let my cows out for watering, but I let them out of the stable once a day except in very bad weather.

EXPERT: That is a good practice. That not only gives you a chance to clean and bed the stables easier, but it gives you a good opportunity to notice any cows that may be in heat.

SMITH: What do you think makes the best bedding?

EXPERT: I suppose some of you here use corn stover and some use straw. Some use shavings. Others use sawdust. Cows are bedded to make them comfortable, to keep them clean, and to absorb liquid manure. Corn stover and the straws are more bulky and absorbent and have more fertilizing value than shavings or saw-

dust. Shavings and sawdust, on the other hand, are cleaner and more nearly free from dust than other bedding material. That's the reason they are often used where very clean milk is produced.

You should get all manure out of the stable at least once a day. If you spread it on the land right away, you avoid a second handling and also prevent it losing too much of its fertilizing value.

SMITH: I don't always find it practical to spread it on the land every day.

EXPERT: Well, I suppose you use a pit for storing the manure. A pit prevents much waste due to leaching. And, of course, you use a litter carrier suspended from an overhead track to get the manure out of the barn?

SMITH: Sure, and I find it saves work, too ------- But there's something else I wanted to ask you ---- How about handling bull calves?

EXPERT: Well, handle your bull calves much the same as you do your heifers; but keep them separate from the heifers after they are 5 or 6 months old.

SMITH: You would feed the bull calves a little more, wouldn't you?

EXPERT: Yes, they grow a little faster than heifers, so you should give them a little more feed. Never let bulls get stunted. After the bulls are one year old you can feed them a grain mixture much the same as your regular herd mixture for cows. Feed them enough to keep them in good physical condition, but not too fat.

SMITH: How much grain would you give?

EXPERT: Four to ten pounds of grain a day will be enough.

SMITH: What's a good grain mixture for bulls in heavy service?

EXPERT: A good grain mixture for bulls in heavy service is 300 pounds ground oats, 200 pounds wheat bran, 100 pounds ground corn, barley or kafir, and 100 pounds linseed oil meal. Legume hays, including alfalfa, clover, vetches, soybeans, and cow peas are best for keeping bulls in good condition. Ten to twenty pounds of bright clean hay and ten to twenty pounds of silage are enough. Have a tank in the bull pen with plenty of fresh pure water in it. Make things comfortable for the bull, but never trust him. Always handle him with a staff and put a ring in his nose. A copper ring 2 to $2\frac{1}{2}$ inches in diameter is all right to use when you ring him when he is between 8 and 12 months old. When he gets two years old, you should replace that ring with a bigger and stronger ring.

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UNITED STATES DEPARTMENT OF AGRICULTURE
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U. S. RADIO FARM SCHOOL Mon. Feb. 6,1928.

(NOT FOR PUBLICATION)

Crops and Soils Meeting No. 19.

SUBJECT: The Outside and Inside of the Fertilizer Bag

ANNOUNCEMENT: Yes, come on in, our farm club is just starting. I guess somebody is going to have something to say about fertilizers--- I see several bags of fertilizer on the table down front there---- Yes, there goes the Department of Agriculture man--- Let's get closer and find out what's up------

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EXPERT: --- Yes, you can get a lot of inside information from the outside of a fertilizer bag---

HALL: How's that?

EXPERT: Why, just take a good look at one of these fertilizer bags. By the law of the States, each bag bears certain definite information. Here's one with the information on a tag. You all can see this other bag better. There you see the information stamped on the bag itself. For instance, you see that "167 pounds"; that's the weight of the fertilizer in the bag. That is, there are twelve bags to the ton. That gives you a chance to check up the weight of the shipment. Do you do it?

HALL: --- The brand names seem to be the big thing on those bags. That "Potato Special" and "Mammoth Producer" and "Unexcelled Tobacco Fertilizer" are what you notice first.

EXPERT: Well, most of those names don't mean anything. That's advertising bunk. Why, in a single state, there are 400 different brands of fertilizer listed for sale. I know one firm that offers three potato specials which have widely different compositions and formulas. You cannot depend on trade names in the selection of your fertilizers.

HALL: I thought you said there was a lot of good information on the outside of the fertilizer bag?

EXPERT: So there is. Look for the composition of the fertilizer given on the bag.

HALL: The name of the manufacturer is the next biggest thing on that bag.

EXPERT: Of course, that is real information. A trade reputation for high class products, good materials, uniformly satisfactory results and honest treatment is the biggest asset of any manufacturer. It is worth more than any fancy brand or trade name. But the most important thing on the bag is the guarantee required by law. That statement gives the real value of the fertilizer in the bag. It states the actual amount of active plant food in the bag. If you know how to interpret it, it tells you the make up of the fertilizer and what crops you can use it on, and how much you need to the acre, and what it should be worth.

HALL: Just what is on that guarantee statement?

EXPERT: This one, for instance, states that the analysis of the fertilizer in this bag is ammonia 5 per cent, available phosphoric acid 8 per cent and potash 7 per cent.

HALL: What does that mean?

EXPERT: Those are the active plant foods you get when you buy that mixture, which is known as a 5-8-7 fertilizer. It means that in every 100 pounds of fertilizer there are 5 plus 8 plus 7 or 20 pounds of active plant food. That's a high grade fertilizer. Let's look at another bag. Here is one with a brand name of "grain and grass special". That means nothing; let's look at this guarantee. Here it is: Ammonia 1 per cent, available phosphoric acid 8 per cent, and potash 1 per cent, or a total of only 10 pounds of plant food in every 100 pounds of fertilizer. That's a low-grade fertilizer.

HALL: It don't cost as much as that other, either.

EXPERT: Well, the selling price may be low for a bag full of fertilizer, but it is mighty high for that little plant food.

HALL: How can you tell which of two fertilizers is worth more?

EXPERT: Each per cent of plant food means 20 pounds per ton. That amount is spoken of in the trade as a unit and the price quotations are based on that unit. Now if you know the price per unit of each of the plant foods you can easily calculate the relative cost of two fertilizers. The low grade, you will find, is the most expensive.

HALL: How do you figure that?

EXPERT: You have to pay as much freight on the low grade as you do on the high grade. Every other operation, such as hauling and handling, is more on the low grade than on the high; because it takes more bags to get the same amount of plant food.

HALL: Where is the dividing line. What is a low grade and what high?

EXPERT: Any fertilizer with less than 14 per cent plant food is low grade. Another above 14 per cent plant food is high analysis fertilizer.

HALL: There is a lot of difference in the kind of stuff those plant foods come from, isn't there?

EXPERT: Oh, yes. That is getting on the inside of the bag. Take that fertilizer marked "Potato Special" with its 5-8-7 formula. That 5 per cent ammonia may be derived from nitrate of soda, from sulphate of ammonia, from fish scrap, from tankage or from cottonseed meal or other materials. Nitrate of soda and sulphate of ammonia are called inorganic sources of nitrogen or ammonia. The fish scrap, tankage, and cottonseed meal are organic. They are lower in nitrogen than the inorganics. A good fertilizer, however, is usually derived from two or more different materials.

HALL: Why's that?

EXPERT: The inorganics such as nitrate of soda and sulphate of ammonia give a quick start. The organics are not so quick. They give their nitrogen to plants more slowly and so keep up the plant food supply over a longer period. So you see all these different kinds of nitrogen materials play their part.

HALL: What proportion should be inorganic and what organic?

EXPERT: Well, that depends some on the character of the soil and the crop you are using the fertilizer on. That is, whether the soil is light or heavy, leachy or retentive of moisture, or whether the crop is one that takes a long or a short time to grow, or whether you are growing it mainly for forage, or for root and for the seed or fruit.

The usual source of phosphoric acid in these complete fertilizers is the superphosphate of commerce. Superphosphate is prepared by treating raw rock phosphate with sulphuric acid which makes the phosphoric acid more soluble than it is in the original rock and produces at the same time some calcium sulphate or gypsum which is not so very soluble, but remains in the product. The more common grade of superphosphate contains 16 per cent of available phosphoric acid, and even 18 or 20 per cent products are on the market. By much improved processes even higher grade products can be produced. The double and treble superphosphates are double and treble as strong as the ordinary 16 per cent superphosphate.

The fixation of the nitrogen of the air and other improved methods of manufacture in phosphate fertilizers is now making the production of really concentrated fertilizers possible, so that 6 or even 4 bags will contain as much plant food as 12 bags of the older analyses. Fertilizers containing as much as 40 or 60 per cent plant food are already on the market.

Some compounds as high as 85 per cent have been made.

HALL: They tell me that the low analysis fertilizers are safer to use--- that they are more fool proof.

EXPERT: That's true. When the mixed materials in the fertilizer don't amount to a ton, some inert filler, such as sand, peat or the like must be added to make up the necessary weight. The manufacturer avoids that as much as possible by using low analysis materials to make his mixtures of low analysis fertilizers. The fillers, and also the organics, have the effect of making the fertilizer more resistant to unfavorable wet or dry conditions and so prevent it caking or hardening and make it easier to distribute by broadcasting and by special drilling machinery.

Without the fillers or organics, fertilizers get moist and set. You must take more care in using and storing them. But, remember, the higher the analysis the less material there is to handle, the less bagging and hauling, and above all the less freight to pay. Active plant food can be more economically put on the farm in the high analysis fertilizers.

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UNITED STATES DEPARTMENT OF AGRICULTURE
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U. S. RADIO FARM SCHOOL

Wed. Feb. 8, 1928.

Farm Economics Meeting No. 19.

SUBJECT: Financing Marketing.

(NOT FOR PUBLICATION)

ANNOUNCEMENT: Every Wednesday our farm club meets here in the school-house to talk over the business end of farming.--Now listen-- There is that Department of Agriculture man and Bill Green talking--

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GREEN: Most of us farmers have been used to selling for cash at harvest time. Even if we could afford to wait for our money, I never could see the idea of paying storage and interest charges for holding the crop--

EXPERT: You pay just the same, even if you do shift the financing and risk-taking to organized middlemen. Consumption is an all year around matter, while most farm products are seasonal. But often when you dump the crop on the market all at once, you force down the price, particularly where transportation and storage are limited or where competition is restricted. With enough credit you can market your stuff more orderly and get a bigger return for it.

GREEN: Sure. But why is it so hard for farmers to get credit?

EXPERT: One reason has been the lack of storage facilities. But storage is on the increase. More and more farmers or their cooperative associations are storing their products. Nowadays, a cotton grower, for example, may take a bale of cotton to a warehouse. He gets a warehouse receipt which certifies its weight, quality, and value. By taking that receipt to his bank and depositing it as security he can usually get a loan which will enable him to hold his cotton for a better price. If it is stored in a Federal licenced warehouse, or in any warehouse where safety and disinterested supervision of the cotton are assured the banks will usually loan more liberally than where those safeguards are lacking. And, of course, if the cotton is not in any warehouse, the danger of loss by exposure to the weather is so big that banks don't like to take it as security at all.

Another reason why farmers lack marketing credit is that they don't have direct connections with central markets. A farmer who has a reputation for honesty and responsibility can sometimes sell his grain, or his livestock, or his fruit to the central market directly and draw a draft on the city merchant which he can discount at his local bank, using the railroad bill-of-lading as security. Of course, that means the buyer and seller must have confidence in each other. The financing of marketing of fruits and vegetables is often done

by commission firms at central markets helped by city banks.

GREEN: Just how do they work that?

EXPERTS: Contracts are made with the grower for the delivery of a certain quantity of the fruit or vegetables, or for all raised on a certain acreage. In return the grower can get advances on his crop, including funds for marketing purposes, such as packing and shipping the product. Those advances are often based on the crop and such other resources as the grower has.

GREEN: A good many farmers nowadays are beginning to do their marketing on a big scale, through the cooperative marketing associations, they tell me.

EXPERT: As far back as 1925 there were nearly 11,000 of those associations in this country. They had an estimated membership of two-and-a-half million people and were doing a business of nearly two and one-half billion dollars. Take the cotton associations: They don't need much capital in the form of plant and equipment, but they need a plenty of credit to finance the buying of cotton.

When they were first organized in 1921, they couldn't get much support from local banks; but the War Finance Corporation granted them lines of credit which improved their borrowing position with private banks a good bit. They now borrow extensively from big city banks in the South and East and from the intermediate credit banks on the security of warehouse receipts and shipping papers. Most of the loans are from 30 to 90 days. Often they also borrow from their own members for short times. Today, they can borrow from the intermediate credit banks at 4½ per cent interest up to 75 per cent of the value of the cotton put up for security.

GREEN: Do those intermediate credit banks lend directly to individual farmers?

EXPERT: No, but they do lend directly to cooperative marketing assiciations. The twelve Federal intermediate credit banks, which are owned by the Government, were established as a result of the Agricultural Credits Act of 1923. The capital was subscribed by the Federal Treasury. They get most of the money they lend farmers by the sale of their short-time debentures secured by acceptable agricultural paper. The interest rate they charge borrowers can't exceed more than one per cent of the rate carried by the last issue of debentures.

GREEN: Do those banks make loans on all kinds of farm stuff?

EXPERT: Well, twenty-two commodities have been declared eligible for direct loans, including cotton, corn, wool, tobacco, peanuts, broomcorn, beans, rice, hay, nuts, dried prunes and raisins, and canned fruits and vegetables. Intermediate credit banks also lend money to banks, agricultural credit corporations and other credit agencies by rediscounting the notes of farmers. Since

they were first organized, they have lent nearly half a billion dollars. Almost two-thirds of that has been direct loans to cooperative marketing associations, with farm commodities as security.

GREEN: Why is it, that some of those associations have organized their own agricultural credit corporations?

EXPERT: They make production loans to members or help them pay off mortgages on their crops. The principal reason for that is this: in the cotton states especially members of cooperatives sometimes have debts to pay at harvest time for which they need a large part of the value of their cotton right away. They may not be able to deliver to the cooperative because their debts force them to have a larger percent of the full market price than the cooperative can offer in its first advance. Local banks are often unwilling to renew production loans so as to let the farmers wait until their cotton is sold. The agricultural credit corporation, however, is meeting that problem, by extending the necessary credit.

Agricultural credit corporations, you may know, are incorporated under state law with a minimum capital of $10,000 for the purpose of obtaining funds from the intermediate banks to loan to farmers. The amount they can borrow is limited to ten times their capital and surplus and the rate of interest they may charge to farmers is limited as a rule to 2 per cent over and above the rate they pay for money borrowed from the intermediate credit bank. For livestock loans the margin may be 2½ per cent. That means that at present the highest rate is from 6½ to 7 per cent. When a bank or a credit corporation lends to a member of a cooperative marketing association, there is generally an arrangement for the association to turn over the proceeds from the sale to the creditor until the debt is paid.

The provisions of the Federal Reserve Act of 1913 have been amended to make it easier for farmers to get crop and marketing credit through banks and marketing associations. Paper issued or drawn for an agricultural purpose may be discounted with a Federal reserve bank even though it has nine months to run, whereas ordinary commercial paper is limited to 90 days.

GREEN: Does that apply to paper issued by cooperative marketing associations?

EXPERT: Oh, yes. Cooperative marketing associations can issue paper which is eligible for discount with maturities up to nine months from the date of discount, if the proceeds of the paper are advanced to members of the association for an agricultural purpose, or are used to pay members for agricultural products delivered to the association, or to finance the association in packing, preparing for market, or marketing products grown by its members. The law also favors bankers acceptances which have been drawn to finance agricultural operations by letting them run six months instead of ninety days.

GREEN: That makes it a lot easier than it used to be.

EXPERT: Yes. There is need of more improvement particularly in financing the plant and equipment of cooperative associations, but facilities for financing marketing as well as production, have been strengthened a whole lot in the last ten years.

UNITED STATES DEPARTMENT OF AGRICULTURE
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U. S. RADIO FARM SCHOOL

Fri., Feb., 10/28

NOT FOR PUBLICATION

Livestock and Dairy Meeting No. 19.

SUBJECT: Our farm club meeting is just starting -- Move on down front and get in on the talk --- Somebody just asked that Department of Agriculture man a question and that set him going --- Listen now, you might get some inside stuff -----

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EXPERT: Yes, on the meat I buy, I always look for that little, round, purple stamp. That little stamp, with that abbreviation for "U. S. Inspected and Passed" is a big protection to folks, if they did but know it ----

HALSEY: How about eating meat with that purple mark on it?

EXPERT: Go ahead and eat it. It can't hurt you. The coloring used for that stamp is as harmless as fruit juices.

HALSEY: Well, what does that purple stamp stand for? What does that "U. S. Inspected and Passed" really cover?

EXPERT: Why, it shows that your rights and health as a meat eater have been protected in the packing plant to the full extent of the Federal law.

HALSEY: How much is that?

EXPERT: That really means that meat has really passed several kinds of inspections. It means that sanitary requirements have been met in the slaughtering plant. It means that the live animals by which that meat was produced were inspected and found to be healthy. Further than that, it means that after the animal was slaughtered, that all the parts and internal organs of the animal have been inspected for any troubles that might not have shown up in the live animal. Fact is, the Federal inspection goes even further than that. In the case of meat products made from that meat, all operations of rendering, curing, smoking, cooking, mixing, canning, manufacturing and labeling done in the establishment are also inspected.

HALSEY: I thought that little purple stamp just meant that that piece of meat was okey, I didn't know it stood for a sanitary inspection of the plant, too?

EXPERT: Oh, yes, it really does; because rigid, sanitary measures are prescribed and enforced. No establishment is granted inspection until certain definite and important requirements as to construction and equipment have been satisfactorily met.

HALSEY: That Federal inspection doesn't apply to meat slaughtered and sold in the same state, does it?

EXPERT: Of course, under our system of government, the Federal Meat Inspection Act can not be made applicable to the packing or meat preparing plant that sells or ships all its meats and products within the State in which it operates. An establishment like that is subject only to the inspection laws or ordinances of its own State or city. However, the Federal law applies directly to those establishments which sell or ship some or all of their meats and products from one State to another State, or from any State to a foreign country. And when Federal inspection is started in an establishment, it is made effective for the entire plant. It covers all the animals slaughtered and all the meats and products prepared in that plant. So you see that provides inspection for large amounts of meats and products which are never shipped out of the State in which the plant operates.

HALSEY: Yes, and there must be a lot of establishments, where the government has to have inspectors?

EXPERT: There are. Last year inspection was maintained at 796 establishments located in 252 towns and cities.

HALSEY: How many animals will they inspect in all those places in a year's time?

EXPERT: Last year, nearly seventy-one million animals were federally inspected at those plants.

HALSEY: Mostly hogs and cattle?

EXPERT: Ten million cattle, five million calves, nearly thirteen million sheep, thirty thousand goats, and more than forty-two million swine.

HALSEY: How many men does it take to do all that inspecting?

EXPERT: About 2,500 persons are regularly employed. That includes veterinarians, lay inspectors, laboratory experts, and clerical workers.

HALSEY: How do they get those jobs?

EXPERT: Through competitive Civil Service examinations and appointments. Promotions are determined by the quality and length of the employee's service.

HALSEY: It must cost a lot to keep up that inspection service, don't it?

EXPERT: Well, if you assessed the cost of the entire service, beginning with the live animal in the pen and extending to and including the finished meats and products ready for shipment, against the number of animals inspected, you would find that the whole cost is between six and seven cents per animal.

HALSEY: That is certainly cheap!

EXPERT: Yes, but it is not a cheap service. It is a very valuable service economically performed. On account of its scope and size, the Federal Meat Inspection Service stands second to none among the meat inspection systems of the world. It is a service in hygiene and sanitation of incalculable value to our nation. Not only that, but it increases our foreign market for meats and meat products.

HALSEY: How is that?

EXPERT: Why, because of the recognized worth of the Federal meat inspection certificate has opened the doors to foreign markets to our meats and products.

HALSEY: What becomes of the meat that don't pass inspection?

EXPERT: The animals, the meats, and the products condemned on inspection are conspiciously marked "U.S. Condemned." All condemned materials are kept in the custody of the inspector and are disposed of according to the regulations to prevent their use as human food.

HALSEY: Then, when you get meat with that little round purple stamp on it, you can be sure it comes from sound animals and a sanitary plant.

EXPERT: Yes, that's the purpose of Federal meat inspection; to eliminate unfit meat from the general food supply; and to see that the preparation of the meats and products passed for human consumption is cleanly, to guard against the use of harmful dyes, preservatives, chemicals, and other harmful ingredients; and to prevent the use of false or misleading names on labels. In short, to protect the rights and health of the consumer of meat and meat food products to the fullest possible extent under the laws.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

U. S. RADIO FARM SCHOOL

Monday, Feb. 13.

(NOT FOR PUBLICATION)

Crop and Soil Meeting No. 20.

SUBJECT: Peach Brown Rot.

ANNOUNCEMENT: All right! A little quiet, there, please! -- Don't you see the club meeting has already started.-------That Department of Agriculture man is saying something about peaches to Steve Blythe---Let's hear what he is telling him--------

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EXPERT: Unquestionably ---- Brown rot is the worst disease of peaches in this country --- except in the drier sections.

BLYTHE: Brown rot is that common rot of peaches, isn't it? The same disease that gets plums and cherries, too, isn't it?

EXPERT: Yes, that's it. When you sort your peaches into marketable and culls, most of the culls are culls because they have been attacked by brown rot. But brown rot not only damages the fruit ripening on the trees, but it shows up in transit and after the peaches are on the market.

BLYTHE: Yes, a commission man told me the other day that last season a lot of the peaches he bought went down with the rot after he got them.

EXPERT: Probably the folks who bought from him couldn't eat some of those he sold for good, either. It is pretty certain that sooner or later anyone who has anything to do with peaches will lose money on account of brown rot.

BLYTHE: Well, what causes brown rot, anyway?

EXPERT: It is a fungus disease. You first see it as a tiny, brown speck. But it develops fast and goes deep into the peach. The whole peach may be involved and finally may shrink into a hard, brown, mummy. The fungus causing the disease passes the winter mainly on mummied peaches. After the whole peach is involved, masses of spores are produced on the surface of the rot ----

BLYTHE: That is the grayish stuff that dries up into a fine powder that gets on your hands when you handle rotten peaches?

EXPERT: Yes, If the mummied peaches are left on the tree the fungus may grow through the stem of the peach and into the twig. It may cause a canker or kill the twig by girdling it. The fungus may also cause a disease of the blossoms; what we often call blossom blight. Those phases of the disease are not as important as the fruit rot stage, however.

BLYTHE: You can keep down brown rot by taking those mummy peaches off the trees and by picking up or plowing under those on the ground, can't you?

EXPERT: That will certainly help control the brown rot. But, of course, you can't completely wipe brown rot out of the orchard that way.

BLYTHE: Why not?

EXPERT: Because the spores are long lived and because they are blown by the wind. Simply getting rid of the mummied peaches won't do. Spores may be scattered about which will live a long time and others may be blown in from other trees in the neighborhood. Plowing under the mummies on the ground is much better than trying to pick them up. In picking them up, you may miss some. But not when they are thoroughly plowed under.

BLYTHE: How do those spores get in a peach. Can they go right through the skin?

EXPERT: Well, under very favorable conditions the fungus causing brown rot can go through the unbroken skin. In most cases, however, the fungus gets in the peach through punctures made by the common peach worm or plum curculio. For that reason, in the control of brown rot you must control the peach worm.

BLYTHE: How can you do that?

EXPERT: By using arsenate of lead in the same dusts and sprays you should use to prevent the attacks of the fungus itself. You should put your main reliance for the control of brown rot on spraying or dusting.

BLYTHE: Some seasons it is worse than others.

EXPERT: Certainly. Moderate temperature, say between 70 and 80 degrees, favors the development and growth of the brown rot causing fungus. So does cloudy, rainy, or otherwise humid weather. The watery fruits of a rainy season are more susceptible to brown rot attacks than the more solid fruit of drier seasons.

BLYTHE: Fertilizer affects it, too, doesn't it?

EXPERT: Yes, it is a common experience that peaches grown on very rich land or on trees that have been overfertilized and overstimulated with nitrogen, either in the form of stable manure or other organic material or in the form of nitrate of soda, are abnormally subject to brown rot.

BLYTHE: Well, when is the best time to spray for it?

EXPERT: In the case of brown rot alone, the most important applications come just before the fruit begins to ripen. You can use the dusts at that time or even later. The sprays not only protect the fruit on the trees but also afford protection to the fruit in transit and on the market.

BLYTHE: What kind of dust and sprays do you use?

EXPERT: The dust used is a combination of sulphur and arsenate of lead and hydrated lime. The best peach spray, to which you can add arsenate of lead for

the control of insect pests, is self-boiled lime sulphur.

BLYTHE: That is not the same as lime sulphur solution which is used as a strong winter spray and is diluted and used on apples during the growing season, is it?

EXPERT: No. Don't confuse self-boiled lime sulphur with that. There are substitutes including commercial substitutes for self-boiled lime sulphur. They are mainly pastes or powders to which you are supposed to add water. They don't form a clear fluid as lime sulphur solution does. They make a milky mixture.

BLYTHE: Just a minute --- I want to get this thing straight. I want to know just what to use for peach brown rot and when to use it.

EXPERT: Well, I'll tell you. If you will just write to the Department of Agriculture for Farmers' Bulletin 1527 on Peach Brown Rot and Scab, they will send you a copy free of charge. It will give you complete information on brown rot, including the different spray mixtures and a schedule showing when to apply them.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
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U. S. RADIO FARM SCHOOL

Wed. Feb. 15.

(NOT FOR PUBLICATION)

Farm Economics Meeting No. 20.

SUBJECT: Marketing Farm Produce by Parcel Post.

ANNOUNCEMENT: At these Wednesday meetings of our farm club we have been discussing the marketing of farm products. The more we know of marketing, the better we can do our marketing. The Department of Agriculture expert has been giving us good clear reasons for the things he says are proper to do. --- Yes, there he is, over there ------

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BROWN: How far does it pay to ship farm products by parcel post?

EXPERT: Under usual conditions, you probably won't find it profitable to ship your farm stuff by parcel post farther than the third zone; that is, about 300 miles. Of course, occasionally, when there is a good demand, it may pay you to ship farther than that.

BROWN: How can you know what prices you can get by parcel post?

EXPERT: Well, you should keep yourself posted on market reports of prices, as well as supplies. The Bureau of Agricultural Economics now includes most farm products in its market news reporting work. Those reports are printed by many papers and broadcast by radio stations all over the country.

BROWN: But how can us farmers find out who will buy our stuff by parcel post?

EXPERT: That's certainly important! -- For each sale there must be a buyer. Parcel post customers are got in various ways. As I told you before, if you live on an improved road where automobiles pass, you can announce on a billboard what have you to sell. Or you can make a personal canvass, or circularize a mailing list, or you can get your customers through friends.

BROWN: How you mean get customers through friends?

EXPERT: Well, I suppose you have some relatives or acquaintances in towns near here or in the city, through whom you can get a start in marketing by parcel post. If they like your stuff, they will probably be in a position to get you more customers among their neighbors and friends.

BROWN: How can you be sure the people you don't know will pay?

EXPERT: Well, unless new customers are recommended by some personal acquaintance of yours in whom you can depend, you had better begin on a cash with the order basis. Later, if you feel sure you can trust the customer, you might arrange to have payments made, say, once a month. It is a good idea to offer to exchange references with new customers; but always be sure the names given you by the city man are dependable.

BROWN: You can get good prices selling by parcel post, can't you?

EXPERT: Well, your prices must be reasonable. The city man will not pay more for stuff shipped direct to him than he can buy the same stuff for in the city market. He is looking for as good an article at a less price or a better article at the same price.

BROWN: I have heard that some city folks will pay good, high prices ---

EXPERT: Ye-es. Strawberries in January necessarily sell at a high price and sometimes even when strawberries are plentiful, extra fancy ones do bring fancy prices. But keep in mind that those fancy prices represent only a small part of the strawberry supply of any market. The people who are willing to pay a fancy price are not very many, and extra fancy strawberries are not very plentiful on the market.

But remember in packing your product, say strawberries, for instance, be sure and put nice, big, good-looking berries on the top of the box --- and then put the same kind all down through the box. A good, well graded product usually sells when an ungraded one will not sell. Please remember that you cannot succeed in marketing ordinary stuff by parcel post any more than you can in marketing it in any other way.

BROWN: It always seemed to me that city people are mighty particular about what they buy.

EXPERT: Well, sometimes we think of it that way. Remember, we are used to good, fresh stuff on the farm. Even though it is not of good or best grade, it often suits us all right, because it is fresh and we can use it right away. If an apple is starting to rot, we can cut the rot out and use what's left; but it is not good marketing practice to send to market an apple that has started to rot. Before it reaches the consumer, it will probably be entirely rotten.

BROWN: Then you think that in marketing direct by parcel post, we should pay more attention to quality of the stuff?

EXPERT: Absolutely! -- You should plan for quality, even in selecting your seed. Pay attention to quality all along the line; in production, gathering or harvesting and in preparing for market. And that includes the package. A nice appearing package is attractive, whereas the same product in an old, second hand, dilapidated container is not attractive.

BROWN: What kinds of stuff can you ship by parcel post?

EXPERT: Well, strange as it may seem, eggs were the first thing studied as to the possibilities of marketing by parcel post.

BROWN: What kind of box would you ship eggs in?

EXPERT: The most common type is made of corrugated paper board. Most of them have two thicknesses of corrugated board between the egg and the outside. There are also containers made of light weight metal, with linings and fillers of corrugated or similar paper.

BROWN: Well, what else, besides eggs and strawberries, can you sell by parcel post?

EXPERT: You can market practically all fruits and vegetables by parcel post. You can also market fresh and cured meats and dried and evaporated fruits that way.

BROWN: Doesn't the Post Office Department have some regulations about the condition they must be in?

EXPERT: Certainly. They must be in good, sound condition. That is, they must be in such condition there won't be any leaking of juice or decayed material. They must also be in a container which will carry them properly.

BROWN: Are ordinary commercial containers acceptable for shipping fruits and vegetables?

EXPERT: Yes, most of them are, if they come within the limits of size and weight.

BROWN: What are the limits?

EXPERT: The measurements of a parcel in girth and length, added or combined, must not be over 84 inches. The weight is limited to 70 pounds for the first three zones and 50 pounds beyond the third zone.

BROWN: That is bound to have some effect on what you can market by parcel post, on what will pay.

EXPERT: Undoubtedly, Marketing by parcel post, like any other method of marketing, has its field of usefulness and also its definite limitations. The size of the country, the big distances between important production regions of many commodities and the densely populated parts of the country where they are mainly consumed, naturally make it more economical to ship most food products in carlots. However, there is a considerable field of usefulness for the parcel post for marketing various kinds of farm products. The whole subject is covered in Farmers' Bulletin 1551.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
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U. S. RADIO FARM SCHOOL

Friday, Feb. 17.

(NOT FOR PUBLICATION)

Livestock and Dairy Meeting No. 20.

SUBJECT: Silage and Silos.

ANNOUNCEMENT: Every Monday, Wednesday and Friday our farm club meets here in the school house. Friday we talk over livestock and dairy problems ---- Now there's the Department of Agriculture man now -- the one talking to Ed Carey there ------ Let's mosey over and see what they are talking about -----

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EXPERT: Sure. Silage is one of the best and cheapest feeds for dairy cows. It is especially valuable here in the winter time when there's no green grass. And also during the summer when pastures are short and dry. Silage is palatable, nutritious, succulent, aids the animals to digest other feeds and helps tone up their systems.

CAREY: You say it is one of the cheapest feeds?

EXPERT: Certainly. When crops are properly ensiled, less of the feed value is wasted. Take corn, for instance. Only about 10 per cent of the feeding value of the corn plant is lost when it is put in a silo. When cured as dry fodder, the coarser parts are not eaten. The loss in dry fodder runs up to 25 to 35 per cent of the corn plant. Then, too, weedy crops which would make poor, unpalatable hay, often make a palatable silage that the cows eat readily. By saving the food value and converting poor crops into silage, you can keep more cows on a given area of land. You can put crops in the silo when the weather won't let you make them into dry fodder.

CAREY: Just how is silage formed?

EXPERT: Well, when you pack green, finely cut forage firmly in a silo with its air-tight walls, certain fermentations take place.

CAREY: What causes that fermentation?

EXPERT: Oh, the fermentations are caused both by enzymes in the plant cells themselves and by bacteria and yeasts carried into the silo on the forage. During those fermentations, the sugar in the ensiled forage is changed into acids. Those acids give the silage that characteristic sour smell and taste and help prevent further decomposition.

CAREY: What crops are best for silage?

EXPERT: Well, many crops make good silage. Indian corn is best where it thrives well. Sorghums and sorgos are next best. Cereal grains, such as oats and rye, make good silage if you put them in the silo before the stems get too woody. Since they have hollow stems, you must be careful to pack them in well.

CAREY: How about using legumes?

EXPERT: As a rule, legumes don't make good silage when ensiled alone; because they are comparatively high in protein and low in sugar. Usually not enough sugar is present to produce enough acid to check the rotting ferments of the proteins. However, you can use sudan grass. Johnson grass, sunflowers, and combination crops such as oats and peas, and corn and soy beans or any combination of a cereal crop and a legume. Sunflowers don't always have enough sugar to produce a good grade of silage, however. You can also make silage from such by-products as beet tops, beet pulp, apple pomace and sorghum bagasse; also pea vines and sweet corn waste from canning factories.

CAREY: The crop should be mature for making silage, shouldn't it?

EXPERT: Well, so nearly mature that you won't produce a sour, too acid silage. However, it should have enough moisture in it to make it pack well in the silo. If it is too immature, excess moisture may ooze out at the bottom as the silage settles. If too dry, the material, even if well tramped, will not pack enough to shut out the air, and moldy or fire-fanged silage will result.

CAREY: I've heard that forage sometimes gets too dry before being ensiled and won't pack well even when it is properly distributed in the silo and well tramped.

EXPERT: Well, in that case, you should add enough water to make it pack well; otherwise the silage may get moldy.

CAREY: How would you add the water?

EXPERT: The best way to add the water is to wet the material with a hose as it leaves the cutter knives and before it goes up the conveyor or blower pipe. That will give you an even distribution of water that you can't get if you add the water after the silo is filled. When the silo has been filled see that the top is leveled off and well tramped, so that you will get the least amount of spoiled silage on top. Wet, cut straw or other low grade forage in which there is no grain is sometimes used as a cover to keep down the loss from spoiled silage.

When you first open the silo take off the spoiled top layer and dispose of it where the cows can't get to it. Feed a layer of from two to three inches every day; keeping the surface of the silage level. Don't feed moldy or frozen silage or you may give your cows digestive troubles. Of course, frozen silage is a good feed if it is thawed out and fed before it has begun to spoil.

CAREY: How much would you feed?

EXPERT: That will depend upon the kind and size of your animals and the

quantities of other feed you are giving them. In addition to hay and grain, dairy cows will eat from 25 to 50 pounds of silage a day. Yearling heifers need only about half as much as mature cows. Bulls in active service shouldn't have more than 20 to 25 pounds a day. And remember, too, that silage made from forages and by-products has flavors and odors that are easily absorbed by milk. If you feed such silage just before milking, the odors will be in the milk at the time it is drawn. For that reason, you should feed silage soon after milking instead of before.

CAREY: What is the best type of silo? The trench silo or the pit silo or the semi-pit or the regular above-ground silo?

EXPERT: Well, you should take into consideration your local climate, the permanence, and the cost of building. If properly built, any of those types will do the work; that is, if conditions are right for it.

CAREY: How you mean?

EXPERT: Well, unlined trenches are often used for preserving silage in dry sections where the soil is a heavy clay. The only cost is the labor, but there is a big percentage of spoilage in such a silo. In pit silos, a plaster coat about an inch thick is usually put on the earth wall. A pit silo is easier to fill, but harder to get the silage out of than the above-ground type. Most silos are the above ground type. Every type of silo needs a good roof.

CAREY: How big should the silo be?

EXPERT: That depends on the number of cows you are going to feed. The diameter should be such that two or three inches of silage can be taken off each day. Don't build a silo too big for your herd.

CAREY: Well, how big should the silo be for 10 to 15 cows?

EXPERT: As far as feeding surface is concerned, a silo 8 feet in diameter will be big enough for 10 to 12 cows. A silo 10 feet in diameter will be big enough for 15 to 18 cows. A silo 12 feet in diameter will be big enough for 20 to 30 cows. You can build silos 14, 16, or 18 feet in diameter if your herd is big enough to warrant it. The height of the silo should not be more than three times the diameter. A good height for silos more than 10 feet in diameter is 30 to 35 feet.

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UNITED STATES DEPARTMENT OF AGRICULTURE
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U.S. RADIO FARM SCHOOL Mon. Feb. 20, 1928.

(NOT FOR PUBLICATION)

Crop and Soil Meeting No. 21.

ANNOUNCEMENT: At this time each week we meet here in the school house to talk over crop and soil questions -----Just a minute ----- Did you hear that? ----- Jim West, and that Department of Agriculture man are talking alfalfa----- I want to hear that ------ Come on, let's get closer -------

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WEST: What is that law; about coloring foreign grown alfalfa seed?

EXPERT: That's the law that protects farmers from buying foreign seed that may not grow well in this country. The Federal Seed law orders the Secretary of Agriculture to study foreign grown alfalfa; and when he finds that seed from any country is not adapted for general agricultural use in the United States, he must see to it that the alfalfa seed from that country is stained ten per cent red, as a warning to you growers.

WEST: What seed has been found unsuited?

EXPERT: Alfalfa seed from Turkestan, and Africa, has been found to be unadapted to general agricultural use in the United States. Seed from those countries iscolored ten per cent red. Seed from South America has been found to be unsafe except in southern states and seed from that source is colored 10 per cent orange red.

WEST: How about the alfalfa from other countries?

EXPERT: That's colored, too, to show where it comes from; but it is not colored red. Seed from Canada is colored oneper cent violet.

The alfalfa from other countries is colored one per cent green

WEST: Where does most of our imported seed come from?

EXPERT: Aside from Canada, the bulk of the foreign grown alfalfa seed has come in the past from Turkestan, Argentina, South Africa, and France. Several years ago most of it came from Turkestan. Since 1920, there has been very little from there, but considerable quantities from Argentina.

WEST: What's wrong with Turkestan alfalfa?

EXPERT: Well, in flower color and general habit of growth, the Turkestan alfalfa is not much different from some strains of common alfalfa. Some

of the early importations gave fairly good results in the cold dry sections. In humid sections, however, seed from Turkestan has proved very unsatisfactory.

WEST: How about the seed from Argentina?

EXPERT: The flower color is also like common alfalfa. The Argentine seed is produced in a mild climate. It is not hardy. It suffers severe winter killing in the northern part of this country.

WEST: Is it the same thing with alfalfa seed from South Africa?

EXPERT: Yes, it is non-hardy too. It is not suited for use in the colder parts of the United States. The seed consists largely of strains of common alfalfa. So is the French alfalfa generally known in this country as Provence alfalfa. Provence alfalfa is seemingly not quite as hardy as the strain of common alfalfa produced in Kansas and so, you see, it is not safe for use in the northern part of the United States.

WEST: Where did common alfalfa come from?

EXPERT: Probably from southwestern Asia. From there is has spread to all parts of the world. Where it has been grown in a warm climate, a fast growing strain susceptible to cold has been developed, by the natural conditions. On the other hand, in cold regions natural selection has resulted in an alfalfa resistant to cold. For that reason, we have common alfalfa strains that are nearly as hardy as the Grimm variety while others are very little hardier than the Peruvian alfalfa. In this country we designate the strains by the name of the State or condition under which the seed is produced; as for instance, Kansas grown, Montana grown, dry-land, and many others.

WEST: I thought that common alfalfa was the same wherever it was grown?

EXPERT: That's all wrong. You farmers should use alfalfa seed that was produced under climatic conditions and in a latitude like the section of the country in which it is to be sown. Seed of strains developed in and produced in the southwest practically always winterkills in the northern states. On the other hand, northern strains and varieties of alfalfa do not produce as well in the South as strains that have grown in the South for several seed generations.

WEST: What varieties of alfalfas, that are classed as non-hardy, are grown commercially in this country?

EXPERT: The only ones now are the hairy Peruvian variety and the strains of common alfalfa that are not resistant to cold. A strain known as smooth Peruvian used to be grown in the Southwest, but nowdays you seldom see that variety for sale.

WEST: What's the idea in raising that Peruvian if it's not hardy?

EXPERT: In the extreme southwest, Peruvian alfalfa grows fast. In that section, it procudes a bigger tonnage of hay than other varieties. But where

temperature falls below 10 degrees above zero, Peruvian alfalfas are not dependable.

WEST: What are some of the best hardy varieties?

EXPERT: The hardiest of our important commercial varieties of alfalfa are crosses between various strains of common, purpleflowered alfalfa and the yellow-flowered alfalfa which grows in the cold regions of Siberia. Their hardiness is probably due to the yellow-flowered ancestry.

WEST: Grimm is one of the hardy ones, isn't it?

EXPERT: Yes, it is the most important one of that group. Grimm is especially valuable in the northern half of the United States where winters are severe. In the southern states where winters are relatively mild, Grimm alfalfa does not give as good results as common alfalfa. There is none better than Grimm for the northern States.

WEST: How about Ontario alfalfa?

EXPERT: Ontario or Canadian variegated alfalfa like Grimm is a cross and was developed in Ontario probably from stock from France. It is hardy and has given about as good results in the northeastern part of the United States as Grimm alfalfa. The seed is ordinarily considerably cheaper, too. But in cold, dry regions Ontario has not proved quite equal to Grimm.

WEST: What other hardy alfalfas are being used?

EXPERT: Well, there are the Cossack, and the Baltic, and the Hardigan, and the Ladak.

WEST: How does that Cossack do?

EXPERT: It is not any better than Grimm, either in hardiness or productiveness. Because of the limited supply, the seed has sold at higher prices than Grimm, but unless you plan to raise the seed for market, it probably wouldn't pay to give the higher price for it.

WEST: How about the others?

EXPERT: Baltic has not proved better than Grimm in any respect. Hardigan, that was developed from a strain of Baltic at the Michigan Agricultural Experiment Station, seems to be a somewhat heavier seed producer than other commercial varieties, but in most regions it is no better for hay than other hardy alfalfas. Ladak was introduced from northern India and is one of the newer variegated alfalfas. In the early tests the variety has appeared very promising; especially for cold, dry regions where it is normally possible to get only one cutting of hay.

The point to remember, however, is that there are alfalfas and alfalfas. One that is good for one section of the country may not be good in another. Select seed that does well in regions similar to the region in which you expect to sow it. That seed staining law helps keep you from going wrong on foreign seed.

UNITED STATES DEPARTMENT OF AGRICULTURE
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U. S. RADIO FARM SCHOOL

Wed. Feb. 22, 1928.

(NOT FOR PUBLICATION)

Farm Economics Meeting No. 21

SUBJECT: Development of Cooperative Marketing Associations

ANNOUNCEMENT: With this meeting our farm club will take up the subject of cooperative marketing. At this time each week for ten weeks, we expect to talk about co-ops. There is that Department of Agriculture man. Some of the members asked him over to tell something about the development of marketing associations. There, they are asking him questions now --- Let's get in on this.--------

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BROWN: Where did all this cooperative movement start, anyway?

EXPERT: Why, cooperation in agriculture is as old as agriculture itself.

BROWN: How you mean?

EXPERT: Well, in the very beginning men discovered that there were a lot of things they could do better together; such things as tending the sheep, driving cattle to market, raising barns, and threshing grain.

BROWN: Of course, there was that sort of cooperating ----- but I mean regular cooperative marketing?

EXPERT: That probably goes back to cheese rings of the Swiss and French peasants in the Jura Mountains. In order to get enough to make cheese, those peasants used to borrow milk from one another. Eventually that led to pooling the milk and making the cheese at a common center. Later that developed into cooperative marketing.

BROWN: I meant, where did cooperative marketing start in the United States?

EXPERT: The earliest recorded instance of cooperative cheese making in the United States was at Goshen, Connecticut, about 1810. From 1840 to 1860 farmers in New York, Ohio, and Wisconsin, started the cooperative making and selling of cheese.

BROWN: They went in for butter pretty early too, didn't they?

EXPERT: Yes, a factory for making butter was established in Orange County, New York, about 1856. Fact is, a cooperative cheese factory established in Montgomery County, New York, in 1863, is still running.

BROWN: How about grain marketing?

EXPERT: Cooperative grain marketing seems to have had its beginnings in the Mississippi Valley. A farmer's elevator was established at Blairstown, Iowa, about 1868. By 1874 there was 28 farmers' elevators in Iowa. Now, the earliest known association formed by fruit and vegetable growers for marketing their products was organized at Hammonton, New Jersey, in 1867.

BROWN: I never thought about cooperative marketing dating way back to Civil War days. I suppose livestock people were organizing about that time, too, huh?

EXPERT: Well, the first formal association for shipping livestock was organized by a group of Nebraska and Kansas farmers at Superior, Nebraska, in 1883.

BROWN: How about wool growers?

EXPERT: Wool growers near Greencastle, Indiana, formed an association for collective action in marketing in 1885.

BROWN: Cotton associations date further back than that, don't they?

EXPERT: Yes, cooperative activity in behalf of cotton marketing dates back to the period right after the Civil War. But the oldest of the associations now operating was formed in 1889.

BROWN: I guess the old egg circle was the first kind of cooperative for marketing eggs and chickens?

EXPERT: Undoubtedly. Nuts have been marketed cooperatively since 1889, and honey since 1899.

BROWN: They all seem to go back further than I thought. But cooperatives were few and far between in those years, weren't they?

EXPERT: Well, by 1900 there were about 2,000 associations marketing farmers' products cooperatively in this country.

BROWN: That includes all the different kinds, doesn't it?

EXPERT: Yes, there were cooperative creameries, cheese factories, grain elevators, fruit packing houses, cotton gins, livestock shipping associations, plants for grading and selling nuts, for distributing milk, for assembling and shipping wool, and for assembling, shipping, and selling many other farm products.

BROWN: And you say that by 1900 there were 2,000 cooperatives.

EXPERT: Yes, and from 1900 to 1915 the number of active associations increased to about 6,000.

BROWN: I know that since then there has been a big increase.

EXPERT: Yes, from 1915 to 1925 the number of active associations jumped from 6,000 to about 12,000.

BROWN: Yes, and some of them are a lot bigger than they used to be.

EXPERT: That is the big point. Prior to 1915 most of the associations serving the farmers were local in character; that is, they served a single community.

BROWN: Things are a lot different from that now!

EXPERT: That's right. Since 1915 the large-scale associations and the terminal market sales agencies have become important factors in the cooperative marketing movement. The large-scale marketing associations, however, may be a federation of local units, or it may be a single big organization which contracts directly with a big number of farmers. It often operates over a wide section of country; such as a State or an entire producing region. Such a big centralized cooperative marketing association furnishes marketing service to all its producer members. Such an association usually handles a single product or several closely related products.

BROWN: What all do they sell?

EXPERT: Why, cotton, and tobacco, and oranges, and raisins, and dairy products, and wool are all sold largely through that type of organization. Fact is, about half the farmers selling cooperatively today are selling through such organizations. The cooperative sales agency usually operates in the terminal markets where it receives the farmers' products, and attends to the sales and distribution.

BROWN: What is handled that way?

EXPERT: Many thousand head of livestock are marketed in that way. Also big quantities of poultry products, and some of the dairy products.

BROWN: I knew they were cutting quite a figure. Is the number of those co-ops growing all the time now?

EXPERT: Well, the number of the cooperative associations is not increasing materially today, but the number of farmers being served by those organizations is increasing steadily. And the volume of business being done by those farmers' cooperative marketing associations is increasing each year.

BROWN: That sounds encouraging. There are some farmers around here I wish could hear you say that. They don't seem to realize why farmers should cooperate.

EXPERT: Well, try to get them out to our meeting this time next week. We can tell them then why farmers do cooperate.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

U. S. RADIO FARM SCHOOL Friday, Feb. 24.

(NOT FOR PUBLICATION)

Livestock and Dairy Meeting No. 21.

SUBJECT: Tuberculosis Eradication.

ANNOUNCEMENT: This is the day for the livestock and dairy meeting of our farm club. That Department of Agriculture man is telling some of the members down front there something now ---- Sure ---- We're glad to have you ---- Get on down closer where you can hear better -------

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EXPERT: Yes, the United States is lucky. We have a limited amount of animal tuberculosis compared to some of the European countries. In some of those countries, tuberculosis is so prevalent that it is practically impossible to suppress it.

HENRY: Can it be stamped out in this country?

EXPERT: We certainly have been making encouraging progress along that line. If we can keep up the campaign at the same rate we've been going, within a comparatively few years tuberculosis will no longer be the menace to the livestock industry that it has in the past. If we are going to produce pure milk, we must get rid of bovine tuberculosis. Animal tuberculosis, you know, can be taken by human beings through drinking milk from tuberculous cows. We've got to keep that kind of milk away from the children.

HENRY: Yes, and the T-B has certainly cost us livestock people a lot of money and trouble, first and last.

EXPERT: You are certainly right about that. Under the Federal Meat Inspection Act of 1906, food-producing animals, which on post mortem show a certain degree of tuberculosis, are entirely condemned as unfit for food and are converted into inedible products. In animals which show only slight lesions of tuberculosis, the diseased parts are rendered unfit for human consumption. The number of cattle and hogs consigned to the fertilizer tanks on account of condemnation for tuberculosis each year amounted to many millions of dollars. Each owner who raised, fed, and shipped diseased cattle or hogs lost money by it. The tuberculosis-eradication campaign was started to check that loss. Each year since then, it has been shown by practical demonstration that tuberculosis can be and is being eradicated from herds of cattle and hogs. Now each month almost a million cattle are tuberculin tested.

HENRY: What is that tuberculin test?

EXPERT: It is the most reliable means of detecting tuberculosis. It has been used in this country continuously for thirty years. Those familiar with it have more confidence in it today than ever before.

HENRY: In case the cattle are healthy, isn't it dangerous to put those germs in them?

EXPERT: Get this right! Tuberculin has no germs of any kind in it, either dead ones or live ones. When it is injected into healthy cattle, it has absolutely no effect upon them.

HENRY: How can you tell anything by the test then?

EXPERT: Well, when tuberculin is injected into animals that have tuberculosis it produces what is known as a reaction.

HENRY: How do they do that tuberculin testing, anyway?

EXPERT: There are three ways of making the test. There is the tail test; there is the temperature test; and there is the eye test. But they are very delicate tests. Only a man especially trained for the work should be allowed to make the tests. The first of January there were 1,741,253 herds that had passed one successful test in preparation for becoming fully accredited. You know, under the accredited-herd plan after the individual herd of cattle passes two annual successful tests without reactors they are accredited by the State and Federal Government. January 1, there were 148,162 accredited herds in the United States. There is a big advantage to a livestock owner in owning an accredited herd or living in an area that is recognized by the State and Federal governments as free from tuberculosis.

HENRY: Just what is the advantage in that?

EXPERT: It adds to the value of every animal in the herd.

HENRY: How does it add to their value?

EXPERT: There is a big demand all the time for fresh dairy cows or heavy springers to take the place of cows that react to the tuberculin test. Buyers are seldom willing to buy except from herds they know are healthy. Fact is, most buyers willingly pay $25 per head or more for cattle from accredited herds or from tuberculosis free areas.

HENRY: Huh! That must more than pay for what it costs to get rid of the T.B.

EXPERT: Yes, and not only that, but many packers pay a premium of 10 cents a hundred pounds for hogs raised and fed in and shipped from what they call "modified" areas. Thousands of dollars are paid out every year to the hog raisers in modified areas.

HENRY: How much of the country is classed as free from animal T-B?

EXPERT: January 1, 1928 there were 436 counties and 16 towns classified as mod-

ified area. At that time, there were 1054 counties doing eradication work. That is practically more than a third of the counties in the United States.

HENRY: Killing off cattle that have T-B works a pretty big hardship on the owners, doesn't it?

EXPERT: Not so much as some folks think. In all but 3 States indemnity is paid by State and Federal governments. The salvage money goes to the owner of the condemned animal.

HENRY: They tell me that in some States a big per cent of the chickens have T.B.

EXPERT: Yes, Tuberculosis has spread fast in poultry flocks, in the last ten or twenty years. Not only that, but in some localities, the poultry tuberculosis also spreads to hogs. It is responsible for a considerable per cent of the carcasses of hogs being retained for T.B. under the Meat Inspection Act.

HENRY: Is there any way to stop the chicken T.B?

EXPERT: Oh, yes. Tuberculosis can be eradicated from a flock. The way it is done, however, is a little different from the method used on cattle.

HENRY: Well, supposing that some of the chickens have T.B., and that it shows up by the tuberculin test or in the condition of the chicken, what would you do?

EXPERT: The best thing to do is to get rid of the entire flock. You should change the location of the poultry house; clean and disinfect the house and everything in it. Then restock with day-old chicks or with pullets from flock you know to be free from tuberculosis.

The big idea in this tuberculosis fight is to take advantage of our favorable situation in this country. If we work hard, we can free our flocks and herds from tuberculosis and keep them free.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
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U. S. RADIO FARM SCHOOL Mon. Feb. 27, 1928

Crops and Soils Meeting No. 22.

SUBJECT: Treating Farm Timber against Decay.

(NOT FOR PUBLICATION)

ANNOUNCEMENT: -- Yes, this is our farm club. --- Sit down, and make yourself at home ------ We meet here three times a week and swap ideas and information about things that come up on our farms -- That Department of Agriculture man over there has been a big help --- Listen, some of the other members are trying to get some expert advice from him now -------

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TRUITT: ---- Do you think it pays to treat fence posts?

EXPERT: ---- Oh, yes, wood that comes in contact with the soil, or in other damp places, should be protected by wood preservatives.

TRUITT: Some kinds of woods will last a good while without any treatment----

EXPERT: Yes, that's true enough. When you can get that kind of wood at reasonable cost, you should use it. As a rule, however, the supply of real long lasting woods is not big enough to meet the demand. Often the cost is high. That's where the wood preservatives come in handy.

TRUITT: How long will common woods last in the ground, after good preservative treatment?

EXPERT: As long as the best of the untreated, naturally long-lasting woods, and longer than most of them. A small round pine fence post, for instance, may last only two years without preservative treatment. With a thorough creosote treatment, however, its life can be extended to twenty or thirty years. That's the case with most any kind of wood, after it has had proper treatment.

TRUITT: It is pretty expensive to rig up a plant just to treat what posts I use on my place.

EXPERT: Well, preservative treatment also gives longer life to wood used for other purposes, such as silos, telephone poles, barn floors, hog houses, sills, and foundation posts ---- And, you can club together with your neighbors and treat your posts cooperatively. The cost of treatment is often cut down in that way.

TRUITT: What is the best treatment to use?

EXPERT: Oh, a good treatment with coal tar creosote is the most reliable and effective means of making posts last longer----

TRUITT: I guess the price of creosote would be less per gallon, if we bought in large quantities.

EXPERT: Sure, and if enough of you cooperate, you can buy a big, convenient plant for treating the posts at a low cost per man. If you have enough treating to do, you can set up the plant at some convenient location and keep it in operation there. That would be especially handy in case your posts and creosote are shipped in through some central point.

TRUITT: But suppose the posts are cut on the farms --- and the farms are far apart?

EXPERT: In that case, it may be better to buy a smaller plant which you can move from farm to farm. When you have several months' work, it might pay you to have a good man go with the plant and operate it with extra help provided at each place as needed.-- But those are things to work out with your neighbors.

TRUITT: Just how is that treating done?

EXPERT: Well, the simplest effective method of home creosoting is the hot-and-cold-bath process.

TRUITT: What kind of equipment do you have to have?

EXPERT: You can use any available metal tank that is big enough to hold 10 or 20 posts; and strong enough to stand the weight of the oil and the posts; tight enough to be heated without damage or leakage; and high enough so that the oil can come at least six inches above the ground line when the posts are set in the fence. A convenient size for a small plant is about three feet in diameter and four or five feet high.

TRUITT: A fifty-gallon oil drum with one head cut out wouldn't do, would it?

EXPERT: No, 50 gallon drums are too short. But you might use a 110 gallon oil drum, although it is barely deep enough. Don't try to use wooden barrels or tanks, because the hot creosote is likely to leak out of them fast and be wasted. Furthermore, you can't heat them conveniently without steam. For lumber, and other long pieces, except poles, you should have a horizontal tank, long enough for the wood to be completely submerged in the creosote.

TRUITT: Do you just stand the posts or poles in the creosote in the tank?

EXPERT: Yes, and then heat the creosote to about 200 degrees. Use a thermometer to be sure you get the right temperature. After two or three hours at that temperature stop the heating and let the creosote and wood cool down.

A good plan is to do the heating in the late afternoon and let the cooling take place overnight. After they have cooled for half a day or more, turn the posts over and stick the untreated parts in the creosote. However, with poles, that's not practicable.

TRUITT: How much does creosote cost?

EXPERT: Of course, that depends on how much you buy and the freight. You usually should be able to buy creosote for 25 to 50 cents a gallon, but that's not counting the freight costs.

TRUITT: How much creosote does it take for one post?

EXPERT: Good treatment requires about a half gallon of creosote per post. You should remember, though, that successful treatment is not altogether in the creosote bath.

TRUITT: What do you mean?

EXPERT: In hot-and-cold creosoting remember; first, that all bark should be taken off the posts or other timber to be treated. Creosote does not penetrate readily through the bark. Second, the wood must be thoroughly seasoned and dry. And third, round posts generally take better treatment than split posts and when treated last longer. Of course, you realize, creosote should not be heated over an open fire near building or other inflammable material.

TRUITT: Where can we get creosote?

EXPERT: Coal tar creosote is made from the coal tar of coke ovens or of coal gas plants. You can get a list of the known producers and dealers from the United States Forest Products Laboratory, at Madison, Wisconsin. Plants making water gas can produce a creosote that is good but it is not considered quite as good as the coal tar creosote. Certain oils may be used for diluting creosote, but you should get special instructions about them. In order to avoid costly mistakes, it is best to get help from the Department of Agriculture or the agricultural experiment station in your State. The U.S. Department of Agriculture gives detailed suggestions about treating in Farmers' Bulletin No. 744 on "The Preservative Treatment of Farm Timbers". Why don't you write for it? It may be had for the asking.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
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U. S. RADIO FARM SCHOOL Wed. Feb. 29.

Farm Economics Meeting No. 22.

SUBJECT: Why Farmers Cooperate.

NOT FOR PUBLICATION.

ANNOUNCEMENT: --Yes, we meet here every week to talk over the business of farming. Last meeting that Department of Agriculture man over there was telling us about the growth of cooperative marketing associations. He has the figures on cooperation--- Ask him, if you want to know about co-ops.--- There's Bill Holt asking him something now --- Come on, let's hear what they are saying---------

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EXPERT: Sure, Holt, you're right. Cooperative organizations have grown fast in the past ten years. Why, right today they are doing a business that runs up to two and a-half billion dollars a year; that is, taking them all in all.

HOLT: Just why is that? Why have farmers gone in so strong for cooperation here in the last few years?

EXPERT: You can explain it but one way.

HOLT: What's that?

EXPERT: Cooperation has done the farmers of this country a distinct service. Farmers generally have found in cooperative marketing a way of doing business that fits their needs. You know, the most common reason for the organization of cooperative marketing associations is the dissatisfaction of farmers with the prices they are getting. Rightly or wrongly, farmers generally consider marketing agencies responsible for low prices. They've turned to cooperation as a remedy.

HOLT: Has cooperation really boosted the prices farmers get for their stuff? That is, compared with other prices?

EXPERT: Well, if you mean has it arbitrarily increased the price of farm products above the level of other commodities, I'd say no, it has not. Anyone who knows anything about farm conditions since 1920, knows that during that time farm prices have been below rather than above the general price level. No, cooperation has brought about no general improvement in farm prices.

HOLT: Well, what good is it then?

EXPERT: Well, cooperation has not yet developed to such an extent that it could possibly raise the basic price. In some sections, and for some farm products, however, there are indications that it has had an influence on the basic price. Aside from that, however, it has made important contributions to better marketing practices. Better marketing practices tend to stabilize prices and increase the returns to the farmers.

HOLT: What are those improvements in marketing due to the co-ops?

EXPERT: Briefly, local and regional associations have made improvements in local marketing. Many of the large-scale cooperatives have brought about improvements in distribution. You understand, Holt, we can't stand still in marketing. Conditions are always changing. That means that the agencies selling farm crops must make adjustments to meet the changes.

HOLT: Just what sort of changes do you mean?

EXPERT: Well, take the growth of chain grocery stores, for example. That's and important change that has taken place in the last few years. In order to meet such changes and to improve marketing practices, cooperation is necessary.

HOLT: Why can't the middleman, make the changes and improvements.

EXPERT: Middlemen agencies may make changes, but they make them comparatively slowly. Cooperative associations, on the other hand, are constantly trying to find better ways of marketing farm products.

HOLT: Why isn't the middleman just as interested in making changes as the farmer?

EXPERT: Because the middleman is only one link in the marketing chain. He is interested primarily in getting a supply of wheat or livestock or other farm products from the farmers, or from other dealers, and in selling it to his customers at a high enough price to pay his expenses and give him a reasonable profit. As long as he gets a steady supply and a steady profit, it makes little difference to him what the farmer gets for his crop or what the consumer pays for it.

The farmer, on the other hand, has a vital interest in every part of the marketing chain. His profit is affected by the expenses and profits of the country dealer, the city wholesaler, and the retailer. If the cost of retailing butter is too big, the dairy farmer suffers; either because the price he gets is too low, or because the price the consumer has to pay is so high that less butter is used.

HOLT: Either way it cuts down what the farmer gets.

EXPERT: Yes, the result is eventually just that. Potato growers in Michigan have a vital interest in the cost of trucking potatoes from the wholesale markets

to the retail stores in New York City. Yes, the farmers' returns are affected, directly or indirectly, by every loss, waste, and excessive profit that takes place in the marketing of their stuff from the time it leaves the farm until it is ultimately consumed. That is the reason that cooperative associations have been active in developing ways for cutting out losses and excessive marketing costs. They have adopted standard grades to prevent unsaleable and inferior products being shipped. They have studied the demands of their customers so as to supply them with the kind and grade of product that will best suit their needs.

HOLT: They are trying to get closer to the consumer, eh?

EXPERT: That's it, exactly. They are trying to shorten the distance between the producer and the consumer. Associations marketing cotton and a few of the larger associations marketing wool, for example, are developing the sale of their stuff direct to the mills. Many wastes, small in themselves, but large in the aggregate, have been reduced through improvements in storage, handling and selling practices fostered by cooperative associations.

HOLT: But they haven't done much toward getting better prices compared with other businesses?

EXPERT: That's what I was just trying to point out to you. The price advantages which farmers look for in forming cooperative associations are more than merely a good price for one sale or for one season. The members of cooperative associations are building for the future even more than they are meeting present-day problems.

HOLT: When will they ever have more to say about the prices they have to take?

EXPERT: As the cooperative associations become stronger financially, and as they get more experience, and as they have delivered to them a larger percentage of the farm crops and livestock produced in the United States, they will be able to deal more effectively with the many factors that influence prices.

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